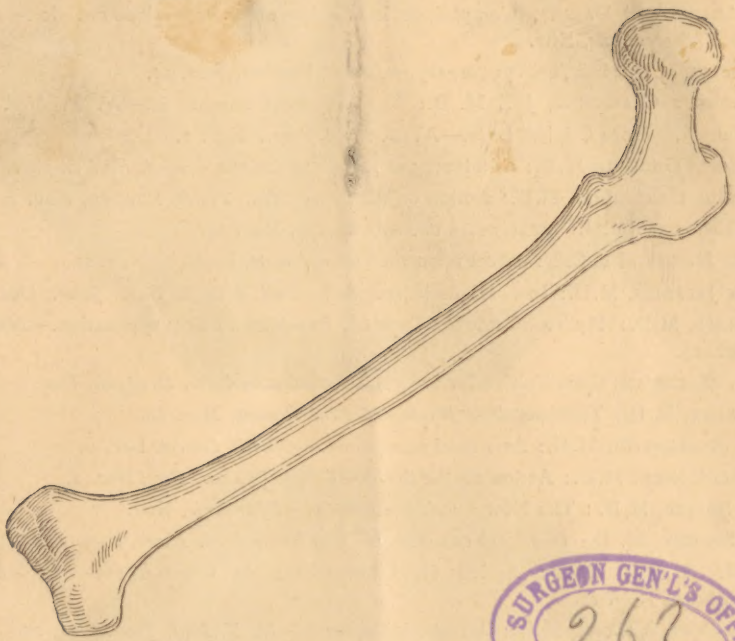
 Cocaine &c



Office MEDICAL ABSTRACT,

93 Fulton St., New York.

DEAR SIR:

The illustrations given here appeared in the ABSTRACT, (the first two pages in 1882, the last two during the present year); the other matter, relating to the use of the Muriate of Cocaine in various operations, has not been published in the ABSTRACT, and is simply placed here as of general interest.

The following are some of the articles which have appeared in relation to operations performed under the use of the Muriate, Hydrochlorate, or Hydrochloride of Cocaine:

Drs. ABADIE and DARIER, L'emploi de la Cocaine en thérapeutique oculaire.—*Bulletin de Thérapeutique*, Nov.

C. BADER, M.D.: Painless eye surgery.—*Lancet*, London, Nov. 22.

J. HERBERT CLAIBORNE, JR., M. D.: The new local anæsthetic.—*N. Y. Med. Jour.*, Oct. 25. More Clinical facts.—*N. Y. Med. Jour.*, Nov. 1.

W. EDWIN GROUND, M.D.: as a local anæsthetic to the eye.—*Med. Review*, Nov. 15.

GUSTAVUS HARTRIDGE, M.D.: Action on the eye.—*Med. Times*, London, Nov. 22.

N. J. HEPBURN, M.D.: Some notes on.—*Med. Rec.*, Nov. 15.

LUCIEN HOWE, M.R.C.S.: Effect upon the eye.—*Lancet*, London, Nov. 22.

B. JOY JEFFRIES, M.D.: In ophthalmic surgery.—*Bost. Med. & Surg. Jour.*, Dec. 4.

H. KNAPP, M.D.: Hydrochlorate of Cocaine, Experiments and application.—*Med. Rec.*, Oct. 25.

CL. R. MARKHAM: Coca Cultivation in South America.—*Amer. Druggist*, Dec.

S. POLLAK, M.D.: Therapeusis.—*Weekly Medical Review*, Nov. 29.

A. M. ROSEBRUGH, M.D.: As a local anæsthetic.—*Canada Lancet*, Dec.

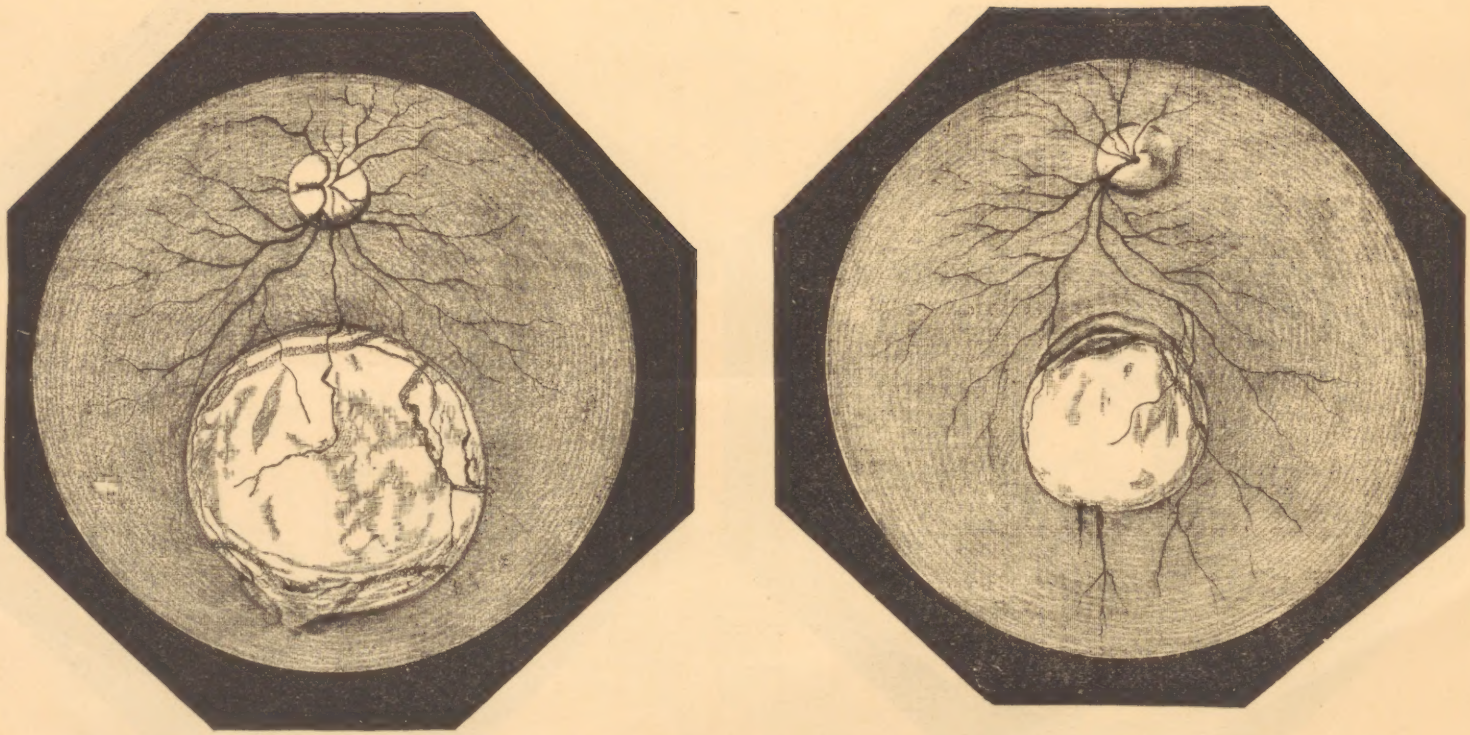
J. SOLIS-COHEN, M.D.: Action on the throat—*College & Clin. Rec.*, Dec. 1.

E. R. SQUIBB, M.D.: The New Local Anæsthetic.—*Ephemeris*, Nov.

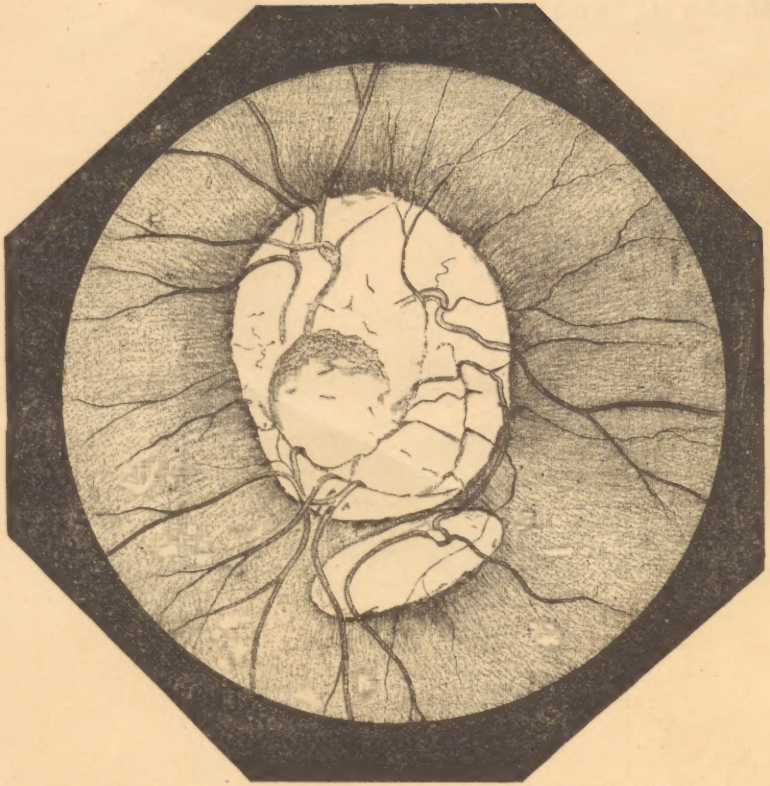
J. A. STUCKY, M. D.: as a local anæsthetic.—*Louisville Med. News*, Nov. 22.

Dr. M. A. TROUSSEAU: Action du Chlorhydrate de Cocaïne sur l'oeil—*L'Union Médicale*, Nov. 13.

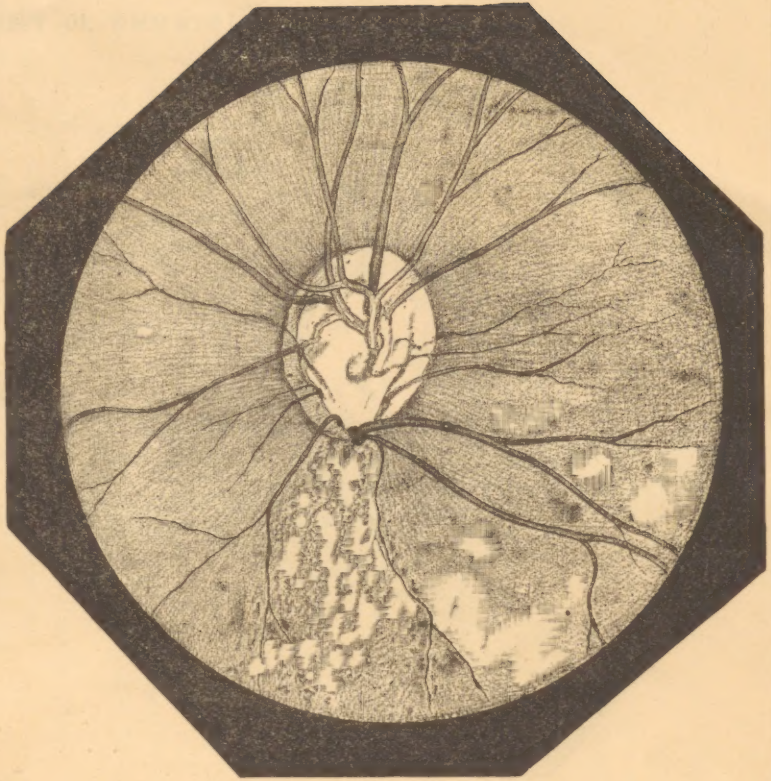
LEROY POPE WALKER, M.D.: A few clinical facts.—*N. Y. Med. Jour.*, Oct. 25.



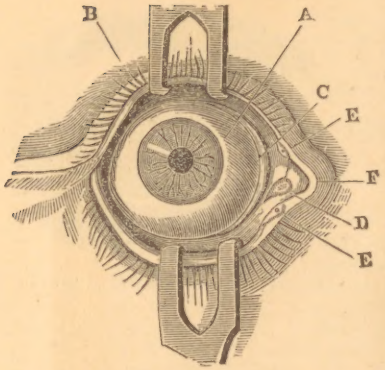
DOUBLE COLOBOMA OF CHORIOID.



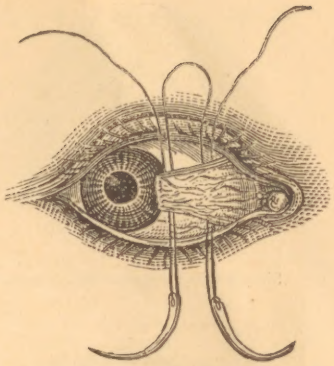
COLOBOMA OF CHORIOID AND OF RIGHT OPTIC NERVE SHEATH.



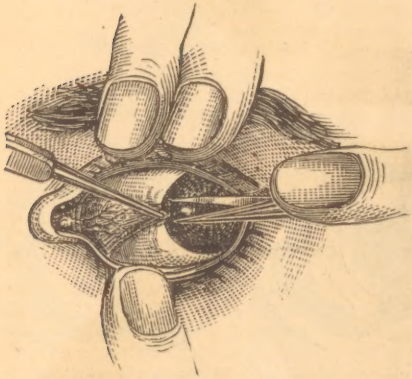
COLOBOMA OF LEFT OPTIC NERVE SHEATH.



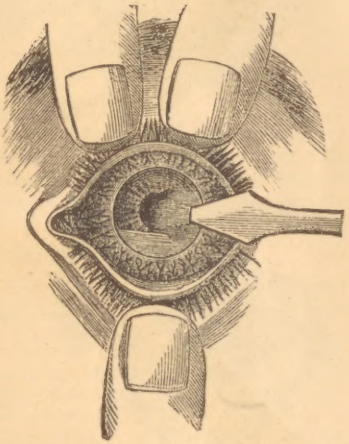
a. Limbus conjunctivalis. *b*. Petro-tarsal fold (fornix). *c*. Plica semilunaries. *d*. Caruncula lacrymalis. *e*. Puncta lacrymalia. *f*. Inner canthus with tarsal ligament. (QUAIN.)



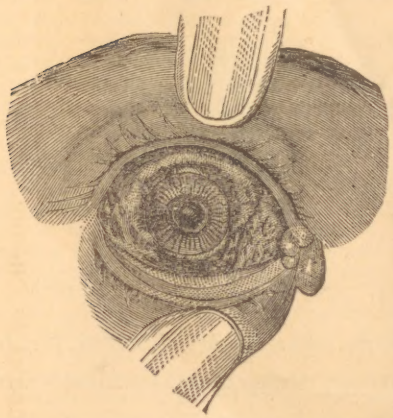
Ligature of the Pterygium (STELLWAG).



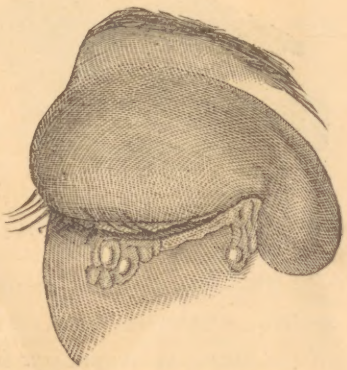
Excision of the Pterygium (STELLWAG.)



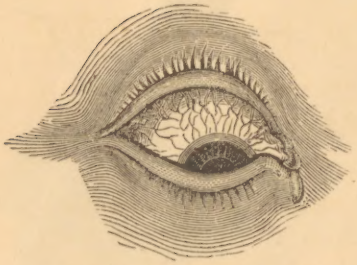
Tapping of Corneal Abscess, Hypopion (STELLWAG).



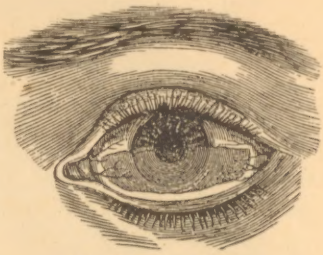
Ocular Chemosis (DALRYMPLE.)



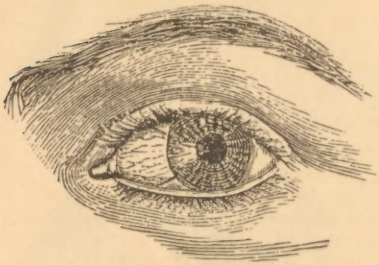
Lid Chemosis (DALRYMPLE.)



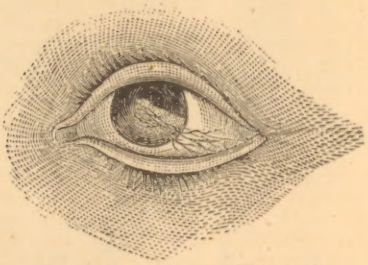
Simple Conjunctivitis (WARDROP).



Burn of Conjunctiva (LAWSON).

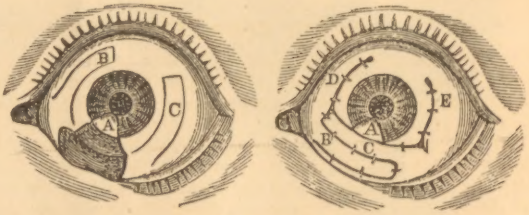


Pterygium Tenue (MACKENZIE).



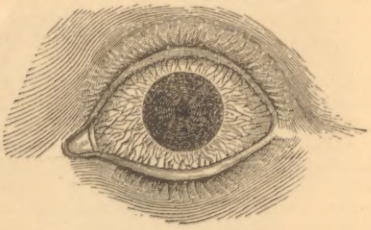
Indolent Corneal Ulcer (WARDROP).

Atrophy of the Conjunctiva and Xerosis.



A. Tip of Symblepharon. *B. C.* Flaps of Conjunctiva. *D. E.* Sutured Conjunctiva.
TEALE'S Operation for Symblepharon.

Symblepharon and anchyloblepharon



Sclerotic Vascularity (MACKENZIE).

The preceding two pages illustrate, partially, Dr. Archibald H. Jacob's article on EYE DISEASES AND THEIR REMEDIES, it appears in several numbers of the MEDICAL ABSTRACT for 1884.

COCAINE HYDROCHLORATE

(Muriate of Cocaine, or Cocaine Hydrochoride.)

THE NEW LOCAL ANÆSTHETIC.

THE DISCOVERY OF THE ANÆSTHETIC PROPERTIES OF COCAINE.

"On Tuesday, Oct. 7, Dr. E. R. Squibb received a letter from Dr. Henry D. Noyes, of New York, dated Kreuznach, Germany, Sept. 19, saying that a medical student of Vienna named Koller had discovered that a solution of hydrochlorate, or muriate, of cocaine of the strength of 2%, when dropped into the eye in quantities, first of 2 drops, and then of 3 drops, with ten minutes' interval, gave, after ten minutes more, an anæsthetic condition of the cornea and conjunctiva, which continued from 10 to 20 minutes, and then passed off gradually. Dr. Noyes had himself witnessed the experiment at Heidelberg, and been very much impressed with its importance, and asked that Dr. A. Mathewson, of Brooklyn, and Dr. Charles Stedman Bull, of New York, be at once told of it that they might investigate the matter."

WHAT COCAINE IS.

"Cocaine is the alkaloid of the leaves of erythroxylon coca (Lamarck), a shrub growing wild and extensively cultivated in South America, especially in Peru and Bolivia. The alkaloid was first isolated from them in 1855 by Gardeke, who gave it the name erythroxyline; but Dr. A. Niemann, of Goslar, Germany, was the first to thoroughly investigate the leaves in 1860. He gave the alkaloid the name cocaine. Lossen, who followed in his footsteps, analyzed it and expressed its composition by the following formula: $C_{17}H_{21}NO_4$. "It acts upon the lower animals much as does theine. It tetanizes frogs, or in overwhelming doses paralyzes the sensory nerves and the posterior columns. Rabbits and dogs are killed by it through paralysis of the respiratory centres. In proper doses it elevates arterial pressure by an action upon the vaso motor-centres and the cardiac-motor system."

HOW THE COCA LEAF IS USED IN SOUTH AMERICA.

The coca-leaf is the great source of comfort and enjoyment to the Peruvian Indian; it is to him what betel is to the Hindu, kava to the South Sea Islander, and tobacco to the rest of mankind; but its use produces invigorating effects which are not possessed by the other stimulants. From the most ancient times, the Peruvians have used this beloved leaf, and they still look upon it with feelings of superstitious veneration. In the time of the Yncas it was sacrificed to the sun, the Huillac Umu or high priest chewing the leaf during the ceremony; and before the arrival of the Spaniards, it was used, as the cacao in Mexico, instead of money. After the conquest, although its virtues were extolled by the Ynca Garcilasso de la Vega, and by the Jesuit Acosta, some fanatics proposed to proscribe its use, and to root up the plants because they had been used in the ancient superstitions, and because its cultivation took away the Indians from other work. The second Council of Lima, consisting of bishops from all parts of South America, condemned the use of coca in 1569, because it was a "useless and pernicious leaf, and on account of the belief stated to be entertained by the Indians that the habit of chewing coca gave them strength, which is an illusion of the devil."

In speaking of the strength the coca gives to those who chew it, Garcilasso de la Vega relates the following anecdote: "'I remember a story which I heard in my native land of Peru, of a gentleman of rank and honor named Rodrigo Pantoja, who travelling from Cuzco to Rimac (Lima) met a poor Spaniard (for there are poor people there as well as here), who was going on foot with a little girl aged two years on his back. The man was known to Pantoja, and they thus conversed: 'Why do you go laden thus?' said the knight. The poor man answered that he was unable to hire an Indian to carry the child, and for that reason he carried it himself. While he spoke Pantoja looked in his mouth and saw that it was full of coca: and as the Spaniards abominate all that the Indians eat and drink, as though it savored of idolatry, particularly the chewing of coca, which seems to them a low and vile habit, he said: 'It may be as you say, but why do you eat coca like an Indian, a thing so hateful to Spaniards?' The man answered, 'In truth, my lord, I detest it as much as any one, but necessity obliges me to imitate the Indians and keep coca in my mouth, for I would have you to know that if I did not do so I could not carry this burden, while the coca gives me sufficient strength to endure the fatigue.' Pantoja was astonished to hear this, and told the story wherever he went, and from that time credit was given to the Indians for using coca from necessity."—*American Druggist.*

USE OF COCAINE IN EYE SURGERY.

D. B. ST. JOHN ROOSA, M.D., LL.D., PROFESSOR OF DISEASES OF EYE AND EAR, NEW YORK POST-GRADUATE SCHOOL—

I have been using the chloride of cocaine, as a local anæsthetic, for the last ten days, in operations upon the eye, and in one case of neuralgia of the tympanum. The preparation employed was a 2 per cent. solution. In the first case the internal rectus muscle was divided. The subject was a young woman. She experienced no pain until the muscle was taken up by the hook, and then she cried out rather lustily, but she did not become at all unmanageable. In the second case I divided both external recti and brought forward the internal rectus. The cocaine was used in this case every five minutes for 15 or 20 minutes before the operation, and some three or four times during its performance. The patient was a young and healthy man, a clergyman by profession. He said the pain was inconsiderable, and I had no trouble during the operation from his movements. Indeed, he seemed to suffer very little.

On the 20th I extracted a cataractous lens, in its capsule without an iridectomy, while the eye was under the influence of the new local anæsthetic. None of the stages of the operation caused anything but trifling pain. The eye remained steady and tractable to the end of the manipulations, and no accident occurred. The operation was witnessed by Dr. Vosburg, of this city, Dr. G. J. Bull, Dr. Ring, and Dr. Tewksbury. Oct. 21 I divided the internal rectus, and employed the cocaine in the usual way, that is, two drops every five minutes for 15 or 20 minutes before the operation, and once during it. The patient experienced considerable pain, and said she would take ether the next time.

As intimated above, I have used the drug locally—upon the membrana tympani—in one case of that rare disease, tympanic neuralgia. The patient said the pain was relieved in ten minutes after two instillations. I have used it for the operation of slitting up the canaliculi and probing the nasal duct, but as yet without any alleviation of the pain usually caused. Except in one case, dilatation of the pupil has always been produced in my cases, but no other unpleasant symptom.—*Med. Record.*

In a communication to Messrs. McKesson & Robbins, Dr. D. B. St. John Roosa says: "I have now used muriate of cocaine in a considerable number of operations upon the eye, for example, in extraction of cataract, division of the recti muscles, removal of foreign bodies, and iridectomy. In my hands it has superseded ether in these operations. I am entirely satisfied with cocaine as a local anæsthetic. I have found the preparation made by McKesson & Robbins as good as that from Merck's alkaloid."—Dec. 4, 1884.

CLINICAL CASES OE EYE DISEASE.

C. R. AGNEW, M.D.—

Case 1. A. E., æt. five; convergent squint. A 2% solution of the hydrochlorate of cocaine was dropped upon the surface of each eye three times, at intervals during a period of 15 minutes, without any more irritation of the eyes than would have been caused by drops of common water. At the end of 25 minutes he walked into the operating theatre, laid down upon the operating chair, and allowed the spring speculum to be inserted between his eyelids, the scleral conjunctiva to be seized with fixation forceps and cut with scissors, and the rectus internus of the left eye to be divided without complaining or showing any signs of suffering. When we had the internus tendon upon the strabismus hook, he said we were pulling something.

Case 2. L. H. B., æt. 11; convergent squint. Solution applied as above, three times in 15 minutes, at the end of which time he sat erect in a chair, resting his head upon the breast of an assistant, had the speculum inserted, scleral conjunctiva seized with fixation forceps, and the internal rectus divided in the usual manner, and when asked, said the operation had given no pain.

Case 3. Joseph McC., æt. six; convergent squint. Solution applied as above. In the delays of the clinic, somewhat more than half an hour elapsed between the last instillation of the agent and the attempt to operate. The youngster seemed to be much frightened by the presence of the surgeon and students; would not submit to the proposed strabotomy, and ether had to be administered before it could be done. As his scleral conjunctiva was insensible to the contact of the fixation forceps 15 minutes after the first instillation of the solution, it is a fair inference that the anæsthetic benumbing had passed away before he entered the operating theatre. His nervous apprehension was so great that he would not have endured an operation even though there might not have been real pain inflicted.

Case 4. James McG., æt. 52, was sent to the clinic with the statement that he had a lacerated wound of the left eyeball involving the sclerotic. His dread of handling and of light was so great that we could get no view of the injured organ, as every attempt to inspect it was instantly followed by blepharospasm. A few drops of the solution were instilled, and in a few moments the patient walked into the operating theatre with the injured eye open and so free from irritability as to make an examination of it before the students quite easy.

CASE 5. J., a physician, æt. 71, with double cataract, consulted us on Oct. 15. His eyes were extremely sensitive to touch. A drop of the 2% solution was dropped upon the scleral conjunctiva, and in 2½ minutes the patient permitted me to apply the end of a forefinger to the scleral conjunctiva without wincing.

The solution used in all these cases was a 2% one.

It is only by extensive gathering of the clinical facts in regard to this new agent that we can reach just conclusions as to its value, and it is important that all observers should give the profession the benefit of their experience. The operations at the clinic alluded to above were done with the assistance of Dr. David Webster, Dr. W. Oliver Moore, Dr. Neil J. Hepburn, and Dr. W. A. Pierrepont, and in the presence of the class.—*Med. Record.*

GENERAL EFFECTS OF COCAINE ON THE EYE.

CHARLES STEDMAN BULL, M.D.—

The drug was for the first time employed in this country as a local anæsthetic on the eye by the writer, on Oct. 8, in his office, for the removal of a cinder from the cornea.

1. The effects of the drug in producing anæsthesia of the cornea and conjunctiva are complete and positive, though the diminution of sensibility varies in different persons. The writer has used the drug in more than 150 cases, and has succeeded in producing complete anæsthesia in all but three cases, while in these three cases the sensibility was decidedly diminished. When a 2% solution is used, the diminution of sensibility begins within the first three minutes after the first instillation, and the anæsthesia is complete within 15 minutes, and usually within 10 minutes. It begins to diminish in about 20 minutes, and has disappeared in from 30 to 35 minutes. If a second instillation is made, the anæsthesia comes on more rapidly and lasts longer, sometimes over an hour. When a 4% solution is used, the diminution of sensibility begins sometimes within the first minute, the anæsthesia becomes absolute within 10 minutes, and, if a second instillation is employed within two or three minutes of the first instillation, the anæsthesia is complete within five or six minutes, as may be shown by rubbing the point of a probe over the cornea and conjunctiva. The instillation of neither of these solutions produces the slightest pain or discomfort, nor does it leave any lasting effects. There is no change produced in the appearance of the cornea or conjunctiva, nor is there any opthalmoscopic evidence of any effect produced on the intra-ocular circulation. The question whether the anæsthesia extends more deeply and effects the deeper tissues of the eye will be answererd when we come to discuss its usefulness in ophthalmic surgery.

2. The effects upon the pupil. The mydriatic effect of cocaine appears much more slowly than that of atropine, and disappears more rapidly. The pupil usually begins to dilate within 15 minutes after the instillation of a 2% solution, and within eight minutes after the instillation of a 4% solution. It increases slowly in size—in some cases very slowly; reaches its maximum in from 35 to 45 minutes and then slowly diminishes, its contraction being much slower than its dilatation. In no case has the writer seen the pupil become as dilated under its use as it does from atropine, even when a 4% solution has been used. In some cases there was still a trace of dilatation on the day following the experiment. In one case no dilatation of the pupil was produced after repeated instillations of the stronger solution, though atropine acted promptly on this patient.

3. The effects upon the accommodation. The results here are, to the mind of the writer, still unsatisfactory, and require further careful observation. The range of accommodation is shortened and the near point does recede from the eye, even when a 2% solution is used. In the person of the writer, whose refraction is myopic, the shortening of the range of accommodation was equal to about D. 5, which came on within 20 minutes after one instillation of a 4% solution. In most of the cases in which this effect was noted the recession of the near-point began within 20 minutes after the instillation, continued to increase during 15 or 20 minutes, and then almost immediately began to diminish, and within an hour and a half the range of accommodation was again normal. The effects of the drug are thus seen to be less marked and more transient on the ciliary muscle than on the iris. The degree to which the accommodation was affected varied very much in different patients. Hence these observations upon the effects of cocaine on the accommodation need to be carefully repeated on a much larger number of patients before satisfactory conclusions on this head can be reached. In no case was there complete paralysis of accommodation produced.

We now come to the most important point for ophthalmic surgeons—viz., the usefulness of the drug as a local anæsthetic in operations on the eye. The points to be settled are two: 1. Are the anæsthetic effects of the drug, when dropped upon the cornea and into the conjunctival *cul-de-sac*, merely superficial, involving only the surfaces of these membranes, or do they extend through the coats of the eyeball, merely requiring more time to produce their effects. 2. If the former, can these effects be made to extend more deeply by injecting a few drops of the solution within the cornea or beneath the conjunctiva? The writer believes that the drug is absorbed, and that osmosis does occur, but very slowly and unsatisfactorily, even when a strong solution is employed, and the anæsthetic effect upon the iris and deeper tissues of the eye is but slightly marked. But

anæsthesia of these highly sensitive membranes may be readily produced in cases where it is necessary, by instilling a drop or two of the solution into the interior chamber through the wound, and an operation for squint may be made absolutely painless by injecting a few drops through the conjunctival wound in the sheath of the tendon. The following *résumé* of a number of cases in which the cocaine was instilled, preliminary to operation, will give a clear idea of the extent to which it may be employed in ophthalmic surgery, and what are the limits of its usefulness.

I. The first case in which the writer employed the drug was a bad case of abscess of the cornea, with iritis and hypopyon, occurring in an enfeebled woman æt. 54. Saemisch's operation of splitting the cornea was necessary, and, after two instillations of two drops of a 2% solution, with an interval of 10 minutes between them, the conjunctiva was seized with the forceps and the cornea split transversely just below the horizontal meridian, without causing the slightest pain.

II. A case of kerato-iritis with hypopyon, occurring in a man æt. 35. After two instillations of a 2% solution, with an interval of eight minutes between them, the anterior chamber was opened below by a broad paracentesis through the cornea, made with a lance-knife, and the pus was evacuated, without causing the patient any pain.

III. A case of convergent squint with hypermetropia, occurring in a young girl æt. 17, in which it was necessary to divide both internal recti muscles simultaneously. Two drops of a 2% solution were instilled into each eye, and, after an interval of five minutes, two drops more were used. After a second interval of five minutes the conjunctiva was seized over the insertion of the right internal rectus and divided *painlessly;* but the moment an attempt was made to open the sheath of the tendon the patient winced and cried out, and expressions of pain continued for some time after the tendon was divided. In the left eye after the conjunctiva was opened, two drops of the same solution were instilled beneath the conjunctiva, and, five minutes later, two drops more ; and within 10 minutes the internal rectus muscle of the eye was divided absolutely painlessly.

IV. A case of leucoma corneæ, in a man æt. 18, where it was necessary to perform an iridectomy for optical purposes. After the usual double instillation of a 2% solution there was complete anæsthesia of the cornea and conjunctiva, and the preliminary incision was made through the sclero-corneal margin on the nasal side *without pain.* The moment, however, the iris was seized with the forceps, the patient complained of the pain, and continued to do so until the operation was completed. This showed that the anæsthetic effect of a 2% solution, instilled in the manner described, had not at that time extended to the iris.

V. A case of simple chronic glaucoma in one eye, with absolute glaucoma and cataract in the other eye, occurring in a women æt. 55. A 2% solution was instilled once into the first eye, and after five minutes a second time. In 10 minutes after the first instillation complete anæsthesia of the cornea. The preliminary incision was made in the limbus upward with a broad lance-knife. Then two drops of the same solution were dropped through the wound into the anterior chamber, and in ten minutes a broad iridectomy was completed without the slightest sensation of pain being felt by the patient.

VI. A case of ordinary senile cataract, occurring in a man æt. 56, in whom a preliminary iridectomy with massage of the cornea, known as Foster's operation for maturing cataract, had previously been done. A 2% solution was used in the ordinay manner, with complete anæsthesia of cornea in 10 minutes, and peripheral incision, quadrilateral capsulotomy and extraction of the cataract, with ease and entire absence of pain.

VII. A case of senile cataract, occurring in a man æt. 74, of excessively nervous temperament and gouty constitution. In this case a 4% solution was used, and in 12 minutes the peripheral incision, iridectomy, capsulotomy, and extraction of the cataract were all done painlessly.

VIII. Another case of cataract, occurring in an old woman æt. 82. Here a preliminary iridectomy with massage of the cornea was done within 14 minutes after the first instillation, and within 6 minutes of the instillation of a 4% solution within the anterior chamber.

IX. A case of retention-cyst of the ocular conjunctiva, occurring in an elderly woman. It was as large as a Lima-bean, and hung down from the upper *cul-de-sac* over the eyeball. A 2% solution was instilled twice, and within 12 minutes the cyst was slit up its contents evacuated with the spoon, and its inner surface cauterized with tincture of iodine—all painlessly.

X. A case of mucocele with stricture of the nasal duct of long standing, occurring in a woman æt. 34. A 4% solution was instilled through the lachrymal punctum, and in eight minutes the canaliculus was slit and the sac opened, and contents evacuated. Two drops of a 4% solution were then dropped into the duct through the opening in the lachrymal sac, and in 10 minutes the stricture was throughly divided with a Stilling's knife, and a large sized Theobald's probe, introduced—all painlessly.

It may thus be seen that almost all the various operations done upon the eyeball and inner surface of the eyelids, and the tear-passages, may be performed painlessly under the anæsthetic influence of cocaine. The only operation on the eyeball in which it may not answer its purpose is that of enucleation ; and even in such an operation, excessively

painful as it is from the large number of the ciliary nerves involved, it may be possible, by a careful injection of a 4% solution beneath the conjunctiva and within the fibrous capsule of the eyeball, to bring about the anæthesia even of these deeper nerves, and thus make the operation a painless one. Looked at even from the most unsatisfactory standpoint, and without the glamour of a very excusable enthusiasm, the drug is a most valueable addition to the resources of ophthalmic surgeons, and relieves us, to a marked degree, from the thralldom of ether and chloroform.

The action of the drug upon the swollen mucous membrane covering the nasal septum and turbinated bones, in cases of acute coryza, is very marked. The writer has used it in his own person, when suffering an attack of acute naso-pharyngeal catarrh, with almost complete occlusion of both nostrils. A probe covered with cotton was dipped into a 4% solution, and the entire surface of the septum and turbinated bones, as far as could be reached anteriorly, was painted with the solution. The same was also applied on a brush through the mouth to the posterior nares, and with such effect that in less than ten minutes both nostrils were entirely free, and remained so for about five hours. The swelling then returned, but to a less degree.—*N. Y. Medical Journal.*

MURIATE OF COCAINE IN GYNÆCOLOGY.

HYDROCHLORATE OF COCAINE AS A LOCAL ANÆSTHETIC IN GYNECOLOGY. W. M. POLK, M.D.—

CASE 1. *Double laceration of the cervix uteri, extending on both sides to cervico-vaginal junction.* The vagina was first washed with a warm water douche, then the cervix, the patulous cervical canal, and the vaginal walls adjoining the cervix were carefully washed with Castile soap, this in turn was washed off, and the surface carefully dried. Next a 4% solution was painted over the cervix, in the canal, and over the adjacent vaginal wall with a camel's-hair brush. This was repeated twice, at intervals of two to three minutes, making three applications of the drug. Within three minutes of the last application the operation was begun.

It required the removal of extensive pieces of cicatricial tissue from each angle, making it an elaborate operation of its kind. The time consumed was about 40 minutes, the patient made no complaint and suffered no pain till the last ten minutes of the procedure, then she spoke of her discomfort as being a sense of soreness rather than acute pain.

Thinking that the case might be one of those in which the normal sensitiveness of the region was not great, consequently one that might have borne the operation without the use of any anæsthetic, local or general, I chose a second.

CASE 2. The woman was one having less self-control than the first, and with a good deal of normal sensitiveness about the uterus and vagina. The preparation of the region and the application of the anæsthetic was the same as in Case 1.

No pain was felt until the lapse of about 20 minutes, then it was so acute as to require an application of the solution of cocaine, making in her the fourth. In three minutes the operation was continued and soon completed without further pain This last application was made directly to the cut surfaces, first freeing them from blood.

The patient, who three years ago had had the same operation performed under ether, was asked which method she preferred, that with ether or this last without ; she promptly replied, this last.

In the first case the effect of the drug seemed to be, that it not only blunted sensibility, but it appeared to retard the first appearance of blood upon the cut surface.

These cases I offer as a contribution to the solution of the question now so prominently before the profession—the place to be held by hydrochlorate of cocaine as a local anæsthetic. With a view of testing its value in obstetric practice a series of observations are being made in the Emergency Hospital, the solution being applied to the cervix and upper part of the vagina during the severe pains of the first stage of labor. The result I beg leave to communicate to you when the number of cases are large enough to make the report valuable.—*Med. Record.*

COCAINE IN LARYNGEAL PHTHISIS.

HYDROCHLORATE OF COCAINE IN LARYNGEAL PHTHISIS. GEORGE M. LEFFERTS, A.M., M.D.—

All who have had any experience in battling with that most dread symptom of advanced larygeal phthisis—the terrible dysphagia—will welcome any means which promises to overcome it, and give even temporary relief to the patient. Such a means I believe we have in the much-lauded cocaine, and I desire to place the results of my experience on record, both for the sake of the sufferers and in order that the profession may be made aware of the possibilities which are at their command.

It is unnecessary in this short notice to detail my trials of the remedy. In a large series of cases the results have always been the same. One case, as an illustration, will answer my purpose. In a patient, the victim of advanced pulmonary and laryngeal

phthisis, demonstrated to my class at the College of Physicians and Surgeons on Tuesday last, one in whom the act of deglutition had been an absolute impossibility for one week on account of the acute pain that it caused, together with the immediate reflex spasm and rejection of the smallest amount of fluid nourishment on any attempt at swallowing, so that the patient was slowly perishing, in reality, more from hunger and thirst than from his disease, one application of the cocaine so anæsthetized the acute sensibility that a full glass of milk was immediately drank before the class with ease and entire comfort. Each subsequent application in his case, as well as in many others equally well marked, has produced the same result, and, I may add, has notably relieved the element of dyspnœa, dependent upon the engorgement and swelling of the tissues, with consequent laryngeal stenosis, probably by producing temporary tetanic muscular contraction, in the fibres in contact with or surrounding the dilated bloodvessels.

One such example alone, however, is calculated to excite our warmest enthusiasm for a remedy which is capable of alleviating such a grade of human misery.

The application of the cocaine (a 4% solution) was preceded in each case by a thorough cleansing of the mucous surfaces and all ulcerated points of the larynx from thick, tenacious muco-purulent discharges by the spray-application of an alkaline solution (Dobell); the parts were then immediately bathed gently, yet thoroughly, by means of a large laryngeal brush fully charged with the cocaine solution. One such application answers the desired purpose.—*Medical News.*

Dr. Lefferts has written to McKesson & Robbins, that, he uses McKesson & Robbins' Salt of Muriate Cocaine and their solution.

COCAINE IN NASAL AND LARYNGEAL SURGERY.

MURIATE OF COCAINE, IN OPERATIONS WITHIN THE NASAL AND LARYNGEAL CAVITIES. CARL SEILER, M.D.—

Case 1 was a lady of light complexion and very nervous temperament, from whom I wished to remove a large posterior hypertrophy, situated on the posterior portion of the lower turbinated bone on the left side. The mucous membrane of the anterior nasal cavities was, however, so exquisitely sensitive that the introduction of the wire snare along the floor of the nose was impossible on account of the pain caused by it. I then instilled a few drops of a 4% solution of the muriate of cocaine into the nostril, the head of the patient being well thrown back, and allowed five minutes to elapse, when, without the slightest pain being experienced, I could introduce the snare and grasp the growth in its wire loop. The gradual constriction of the hypertrophy was at first hardly felt by the patient, but sensibility returned in the course of 15 minutes, and the usual small amount of pain was felt during the latter stages of the operation.

Case 2. Chas. M., a boy 8 years of age, with very large anterior hypertrophies on both sides blocking up the nostrils was to be operated upon, and I decided to remove the exuberant tissue with the wire snare. Before proceeding with the operation I painted the mucous membrane with the cocaine solution by means of a camel's hair brush at intervals of about a minute until all sensibility was destroyed, which occurred after the fifth application. The curved needle was then quickly passed through the base of the growth and the wire slipped around, when the hypertrophic tissue was snared off without the slightest pain being felt by the little patient. After the one side was operated on I again painted the other nostril with the solution of cocaine and removed the hypertrophy in the same manner, also without pain. Without the aid of an anæsthetic under ordinary circumstances this operation is quite painful and its performance in children is out of the question unless under the influence of ether. In adults I have often seen patients faint when the needle was introduced into the hypertrophic tissue.

Case 3. John S., æt. 17, machinist, had made an engagement to have a small exostosis on the lower portion of the cartilaginous septum removed with the burr of the dental engine and had made arrangements to take ether. When he presented himself for the operation I concluded to try the experiment of producing local anæsthesia by means of the muriate of cocaine and to give the ether only if it should fail. A pledget of absorbent cotton was saturated with the 4% solution, and placed over the bony growth and allowed to remain in place for six minutes; a fresh pledget saturated with the solution was then placed in position and left for five minutes after which time it was removed and the parts tested with the sharp point of a needle. No pain or even sensibility being evinced by this test, I proceeded to remove the bony growth, which was of the size of a split pea and materially interfered with the respiration on that side of the nose, by means of the rapidly revolving burr, and found that I could do so without hindrance on the part of the patient, who when asked whether he felt any pain, said, "No, but the noise in the head is awful," meaning the transmission of the sound of the burr through the bones of the face to the ear.

The operation of removing bony excrescences from the nasal septum is a very painful one, and I have heretofore always given the patients an anæsthetic, without which, even if the patient is willing to stand the pain, the operator is very materially hampered in his

manipulations by the involuntary motions of the patient, while if the latter is under the influence of ether, the operator loses his coöperation, and has to work in a more or less constrained position. Thus it will be seen that if we can employ a local anæsthetic like the muriate of cocaine in operations of this kind, not only will the patient be benefited, but also the work of the operator be materially lightened.

CASE 4. Mrs. H., æt. 37, was one of those rare cases of irritable fauces in which it is impossible to introduce the laryngeal mirror or even the tongue depressor without producing gagging and even vomiting. The case being one of aphonia, I was very desirous of obtaining a view of the larynx; but after repeated trials, during which she vomited twice, I gave up the attempt, and told her that she would have to be educated to bear the mirror. The following day she came again, and although her throat was not quite as irritable, yet I could not obtain the desired view at the first few trials. I then decided to try the effect of the cocaine. Unfortunately, my stock of the solution was nearly exhausted, and knowing that I could not obtain any more of it in Philadelphia, I did not use it in the form of a spray, which method of application undoubtedly would have given better results, but carefully painted the fauces and pharynx with a camel's hair brush dipped into the solution. After the lapse of a few minutes, I introduced the laryngeal mirror and obtained a satisfactory view of the larynx and vocal cords, without the slightest reflex movement being visible.

As long as my solution lasted, I employed it in various other cases in which minor operations were required, and found the drug to act invariably as a local anæsthetic. I observed, however, that some persons are more susceptible to its influence, that is, in some a shorter time and fewer applications are required to produce insensibility of the part than in others, and those in my limited experience I found to be of light complexion, whose mucous membranes are as a rule more sensitive to irritation and pain.—*Med. & Surg. Reporter.*

NOTE ON COCAINE IN GENITO-URINARY PROCEDURES AND IN OPERATIONS ON THE ANUS AND RECTUM.

FESSENDEN N. OTIS, M.D.—

[After speaking of the general effects of the new anæsthetic, Dr. Otis says.] It will, I think, be proved that the greatest good will come from the use of the cocaine in cases of irritability of the deep urethra associated with prostatic disease. In these cases the passage of a catheter, so essential to the comfort and even the life of the patient, is frequently rendered painful, and not rarely impossible, by spasm of the deep urethra. The use of cocaine promises quickly to reduce both the pain and the spasm, and allow of the easy passage of the instrument, and this, too, by a procedure quite within the province of an intelligent patient to use after proper instruction. A 4 % solution of the hydrochlorate of cocaine in almond-oil makes an excellent lubricant for urethral instruments, and I think may prove even better than the watery solution for applications to the urethra. Its use in this way, in a few cases, has been very satisfactory.

The value of the solution of hydrochlorate of cocaine will be equally found in examinations of and operations upon the irritable anus and rectum. Yesterday I had occasion to examine a case of deep and irritable ulcer involving the tissues around the anus fully three inches in circumference to a depth of fully half an inch, and extending inward an inch or more beyond the margin of the external sphincter. The patient was an old woman of 60, who had been worn to the last degree of irritability by nearly two months of suffering. After painting the surface of the ulcer with a 4 % solution for ten minutes, I then introduced a bivalve speculum and exposed the whole inner surface, and cauterized it thoroughly, without the least expression of pain from the patient.—*N. Y. Med. Journal.*

A NEW THERAPEUTIC USE FOR COCAINE.

F. H. BOSWORTH, M.D.—

In using a solution of cocaine in the nasal cavity for its anæsthetic effect I have observed an action which has, as far as I know, not been recorded. When the solution is applied to the mucous membrane it is followed in about 20 or 30 seconds by a very notable contraction in the venous sinuses underlying the part which it reaches, and as the application is continued over the whole membrane covering the lower and middle turbinated bones these sinuses become so rigidly contracted that all the blood which they may have contained is absolutely expelled, and the membrane clings closely to the bony structures, which then become visible in absolute outline.

This action of the cocaine was so entirely unexpected to me in the first case in which I observed it that I continued my observations in a number of cases, and in no single case out of over 40 observed carefully has it failed to produce the same result. Every drop of blood was expelled from the erectile tissue in each case. The strength used was a 2 % solution, and it was applied by means of a pledget of cotton wrapped on a small probe. The effect was usually observed in a few seconds; entire depletion of the sinuses of the whole cavity being accomplished in about three minutes, the production of anæsthesia, as a rule, requiring a longer time.—*Medical Record.*

VALUE OF COCAINE IN DENTAL OPERATIONS.

Dr. C. H. Shears writes: "I have used cocaine twice in the extraction of teeth, and in each case the operation was for a single tooth. The preparation used was a 2% solution. In the first case the tooth was exquisitely tender and the gum inflamed, and so closely adherent to the tooth that it was necessary to incise it. After carefully drying the gum, a small camel's-hair brush was dipped into the solution, and the gum on either side of the tooth brushed across a few times. This was repeated twice at intervals of about three minutes, making three applications in all. A few minutes later the gum lancet was used, *with almost no pain at all.* The tooth was then extracted with a little less pain than it could have been without the anæsthetic. The second case was similar to the first, and the solution was applied in the same manner, with two additional applications. After cleansing the incision from blood a few drops of the solution were instilled into it, and repeated once after about three minutes. No pain attended the incision, and the tooth was extracted with considerably less pain than in the first case."

W. P. Horton, Jr., of Cleveland, O., sends us word that he inserted a few drops of the 4% solution into the cavity of a sensitive tooth, and that a few minutes afterward he used the dental engine without pain.—*Medical Record.*

In reply to a communication regarding the probable supply of Cocaine, Messrs. McKesson & Robbins, of 91 Fulton Street, New York, state that:

"We have secured a large quantity of the leaves, although at constantly advancing prices, and hope to supply the Cocaine in quantity to suit." * * * * "Our preparation has been used in a large number of cases in operations on the eye, throat, etc., in every case with entire satisfaction." "We have lately made an Oleate of Cocaine, containing five per cent. of the alkaloid, to meet repeated demands." * * * * "We also offer two neat little cases, one containing 2 vials, ⅛ oz. each, of 2% solution of the Muriate Cocaine, and the other, 2 vials, ⅛ oz. each, 4%; each case has also a medicine dropper. The prices are $3.50 each with the 4% solution, or $2.50 each with the 2% solution."

McKesson & Robbins have received the following letters among many others, in relation to this important anæsthetic:

"439 Montague St., Brooklyn, Dec. 11, 1884.

It gives me great pleasure to say that I have used the preparation of Hydrochlorate of Cocaine made by McKesson & Robbins in a great variety of cases of operations on the eye, with the most complete satisfaction to myself. The relief from pain on the part of the patient was perfect, and no statement can be made more enthusiastic than the facts warrant.

ARTHUR MATHEWSON, M.D.,

Surgeon Brooklyn Eye and Ear Hospital."

"123 E. 25th St., Dec. 10, 1884.

Messrs. McKesson & Robbins:

Gents.—The specimen of Cocaine, which you left with me a few weeks ago, has given great satisfaction. I have used it in more than a hundred cases of all kinds of painful affections of the eye and ear, and in a great many operations upon the eye, such as cataract-extractions, squint operations and others, and the preparation has produced complete anæsthesia in all cases.

Sincerely yours,

Dr. MITTENDORF."

FOR CONSUMPTION AND WASTING DISEASES.

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Has been proved of the highest value in CONSUMPTION and all WASTING DISEASES, invariably producing IMMEDIATE INCREASE IN FLESH AND WEIGHT.

FORMULA of HYDROLEINE.

Each dose of two teaspoonfuls, equal to 120 drops, contains:

Pure Cod Liver Oil	80 m. (drops.)	Soda	1-3 grains.
Distilled Water	35 "	Boric Acid	1-4 "
Soluble Pancreatin	5 grains.	Hyocholic Acid	1-20 "

DOSE—Two teaspoonfuls alone, or mixed with twice the quantity of soft water, to be taken thrice daily with meals.

The principles upon which this discovery is based have been described in a Treatise on "THE DIGESTION AND ASSIMILATION OF FATS IN THE HUMAN BODY," by H. C. BARTLETT, Ph.D., F.C.S., and the experiments which were made, together with cases illustrating the effect of Hydrated Oil in practice, are concisely stated in a Treatise on "CONSUMPTION AND WASTING DISEASES," by G. OVEREND DREWRY, M.D.

In these Treatises the Chemistry and Physiology of the Digestion of the Fats and Oils is made clear, not only by the description of a large number of experiments scientifically conducted, but by cases in which the deductions are most fully borne out by the results.

Copies of these Valuable Works will be sent free on application.

HYDRATED OIL,

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WATER AND OIL.

HYDROLEINE is readily tolerated by the most delicate stomachs, even when the pure Oil or the most carefully prepared Emulsions are rejected. The Oil is so treated with pancreatin, soda, boric and hyocholic acids, that the process of digestion is partially effected before the organs of the patient are called upon to act upon it. Consequently it is readily assimilated. It will nourish and produce increase in weight in those cases where oils or fats, not so treated, are difficult or impossible to digest. In CONSUMPTION and other WASTING DISEASES, the most prominent symptom is *emaciation*, of which the first is the starvation of the fatty tissues of the body, including the brain and nerves. This tendency to emaciation and loss of weight is arrested by the regular use of HYDROLEINE, which may be discontinued when the usual average weight has been permanently regained.

The permanence and perfection of the emulsion, and the extreme solubility of the HYDRATED OIL, solely prepared and sold by us under the name of HYDROLEINE, is shown by its retaining its cream-like condition as long as the purest Cod-Liver Oil will retain its sweetness. Unlike the preparations mentioned, or simple Cod-Liver Oil, it produces no unpleasant eructation or sense of nausea, and should be taken in such very much smaller doses, according to the directions, as will insure its complete assimilation; this, at the same time, renders its use economical in the highest degree.

To brain-workers of all classes, Hydrated Oil is invaluable, supplying, as it does, the true brain food.

Economical in use—certain in result. Tonic—Digestive and Highly Nutritive.

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EXCLUDES THE POISONOUS & CONVULSIVE ALKALOIDS THEBAIN, NARCOTIN AND PAPAVERIN

DOSE, THE SAME AS OPIUM.

This article is not intended for popular use, but only on prescription of the profession. It is to take the place of Opium in cases where that drug acts injuriously.

Dr. John Harley, of London, in his "Old Vegetable Neurotics," details a large number of experiments upon the human and animal system, with six of what he considers the narcotic alkaloids. He concludes that although all six possess both narcotic and hypnotic properties, yet these are so varied in degree and force, as to make their effects, when exhibited singly, very distinct from those following their exhibition in combination.

Taking the experience of practical physicians with Dr. Harley's results, as a basis, we would group them in the following order:

First Group.	Second Group.
Anodyne and Hypnotic Elements.	Narcotic and Convulsive Elements.
1. Morphia.	1. Thebain.
2. Narceia.	2. Cryptopin.
3. Codeia.	3. Papaverin.

Now Svapnia *is a distinctive name* given *to the first group, representing* the ANODYNE and HYPNOTIC ELEMENTS; *the second group, or the narcotic and convulsive* elements *of Opium being eliminated;* and is *not*, therefore, a simple principle, or a single constituent of Opium.

The relative values of each being known, we can select and utilize those that are valuable, and reject those known to be deleterious and inert.

This is what we claim, and all we claim for Svapnia. *It can be relied upon and given in all cases where Opium or Morphia is indicated with equally good effects;* and in addition to this, there will be found in the practice of every physician, cases occurring almost every day, in which idiosyncrasy and peculiar states and diseases of the brain debar us from the use of Opium and Morphia, but where Svapnia can be exhibited with the happiest results.

In Svapnia, there is retained all the Morphia and the greater part of the Codeia and Narceia, but combined with the native acids of Opium, meconic and thebolactic, in such a manner as to render those constituents soluble and active.

Svapnia is uniform in its proportions, and is prepared to conform to a standard of Opium representing ten per cent. of Morphia. This is done by a simple proportion of the neutral excipient, after determining the actual amount of the alkaloids obtained from the Opium used.

We may safely affirm that the danger of bad results is much diminished by a resort to that preparation of Opium, in which the poisonous elements are eliminated, and the anodyne elements in such a state of combination, as to reduce their toxic, and enhance their hygienic effects, such as has been proved to be the case with Svapnia.

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